

Application Serial No.10/533,197
Reply to Office Action of April 1, 2008

PATENT
Docket: CU-4184

REMARKS

In the Office Action, dated April 1, 2008, the Examiner states that Claims 10-18 are pending, and Claims 10-18 are rejected. By the present Amendment, Applicant amends the specification, and the claims.

In the Office Action, the claims are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Applicant has amended the claims to overcome these rejections. However, the claims have not been amended for any reason relating to the patentability of the claims in view of the cited prior art.

In the Office Action, Claims 10, 12-16 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Martin et al. (US 6,347,572) in view of Gesell (US 3,141,309). Claims 11 and 17 are indicated as containing allowable subject matter. The Applicant respectfully disagrees with and traverses the rejections to the claims.

With regard to Gesell, the compressor-expander 13 has pistons 33 reciprocating in cylinder chambers 27 and engaging a camming surface 39. Each of the cylinders has a first communication passage 31 adjacent to its inner end, and a second communication passage 32 adjacent to its outer end (column 3, lines 23-29). As pointed out in the rejection, these passages 31 and 32 are not spaced angularly, but are spaced radially.

Contrary to what is indicated in the Office Action, Gesell fails to teach or suggest that two such passages might be spaced apart angularly as required by Claim 10 of the present application.

Furthermore, the principle of use of the compressor-expander 13 is described in column 4, lines 31-66 of Gesell, as follows:

1. Cool air from the blower is supplied at ambient temperature in a first station I (more precisely, in the lower portion of station I shown on figure 3) via the passage 31, which, at the time, is connected to the arcuate passage 47 and with the inlet opening 46 of the manifold plate 20.

2. The air contained in the cylinder is compressed during rotation of the rotary member 16 from station I to station II. In station II (left hand of figure 3), the thus

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compressed air is led off via the passage 31 which, at that time, is connected to the arcuate passage 48 and with the outlet aperture 49 of the manifold plate 20.

3. The air thus expelled is cooled in the heat exchanger and is fed again into the cylinder in station II (right hand of figure 3) via the passage 31 which, at that time is connected to the arcuate passage 53 and with the aperture 52 of the manifold plate 20.

4. Finally, the air is let out in station I (more precisely in the upper portion of this station as shown in figure 3) via the passage 32 which, at that time, is connected to the arcuate passage 54 and with the aperture 55 of the manifold plate 20.

As pointed out in column 4, line 46, the air supplied under blower pressure (fed into the cylinder 27 via the passage 31) serves to scavenge out the cold expanded air already present in the cylinder. Therefore, contrary to the statement in the Office Action that "simultaneous communication with both the feed and discharge ducts would be useless" it is necessary that, in station I, blown air be fed via the passage 31 and, simultaneously, cooled air be expelled via the passage 32. Incidentally, figure 7 shows a gasket 70 to be placed between the disks 67 of the heat exchanger. Element 70 is not a capacity valve and has nothing to do with the compressor-expander 13.

Finally, Gesell teaches that:

- passages 31 and 32 are radially spaced, contrary to Claim 10 which requires that the at least two communication orifices of a cylinder be spaced apart angularly;
- passages 31 and 32 are simultaneously connected to, respectively, the feed duct 45 and the exhaust duct 56, contrary to the requirement of Claim 10 that the at least two communication orifices be simultaneously connected to the same one of the feed duct and the exhaust duct.

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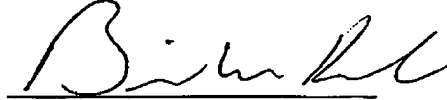
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In light of the foregoing response, all the outstanding objections and rejections are considered overcome. Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

August 29, 2008

Date

Respectfully submitted,



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